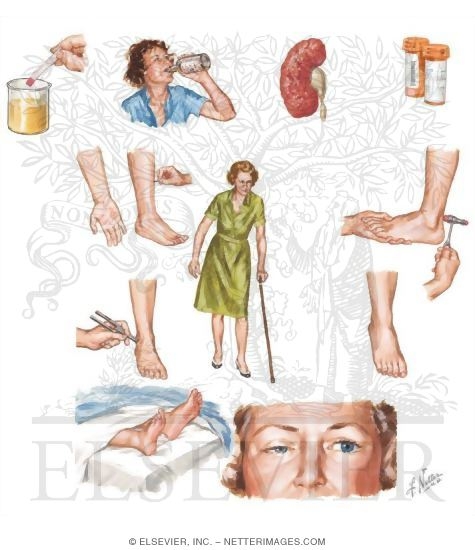
**CIPN (Chemotherapy Induced Peripheral Neuropathy)**

Peripheral neuropathy is caused by chemotherapy medications damaging peripheral nerve cells.

If you can see this message, you need to update your Flash Player.

**Signs & Symptoms:**

* Pain
  + Patients may report shooting or stabbing pain but pain may also come and go.
* Burning feeling in extremities like hands and feet
* Tingling feeling
* Loss of feeling in extremities
  + Patients may report numbness or they may report a lessened ability to sense pressure, touch, or heat.
* Trouble using your fingers to pick up or hold things
* Balance problems
* Pressure or temperature may hurt more than usual
* Muscle weakness
* Trouble swallowing
* Constipation
* Trouble passing urine
* Blood pressure changes
* Decreased or no reflexes

**Diagnostic Tests** 

* Neuro exam
* CT Scan
* MRI
* Nerve Biopsy
  + Very rarely performed, can cause nerve damage
* NCV
  + Nerve conduction velocity test, measure speed of nerve impulse
  + Measure degree of damage in nerve fibers
  + Determines cause of nerve damage: demylinazation (slow transmission of nerve impulse) or axon damage (decreased impulse strength)
* EMG (Electromyography)
  + Inserting needle into muscle to measure electric activity while muscle is active and when it is at rest.
  + Helps differentiate between muscle and nerve disorders

**Medications That Can Cause CINP**:

* Platinum drugs like cisplatin, carboplatin, and oxaliplatin
* Taxanes including paclitaxel (Taxol) and docetaxel (Taxotere)
* Epothilones such as ixabepilone (Ixempra)
* Plant alkaloids such as vinblastine, vincristine, vinorelbine, and etoposide (VP-16)
* Thalidomide (Thalomid) and lenalidomide (Revlimid)
* Bortezomib (Velcade)

**Nursing Interventions:**

* Teach patients the importance of medication compliance.
* Teach patient to avoid extreme temperatures.
* Teach patient to avoid shoes that are too tight.
* Teach patient to avoid alcohol, it may make CIPN worse.
* Teach diabetic patients the importance of controlling their diabetes & importance of controlling their blood sugar.
* Teach patients to use knives, scissors, box cutters, and other sharp objects gently and carefully.
* Teach patients to protect their hands by wearing gloves when they are cleaning, work outdoors, or do repairs.
* Teach patients to how to care for their feet.
  + Instruct them to look at their feet once a day to see if you have any injuries or open sores. Instruct them to always wear shoes that cover your whole foot when walking, even at home.
* Teach patients to be sure that they have ways to support themselves if they have problems with balance.
* Teach patient how to use a walker or cane for extra support.
* **Teach patient to advocate for themselves!** 
  + **Teach patient to report signs and symptoms and concerns to health care provided.**

Excellent Nursing Article on Nursing Interventions for CIPN

<http://ons.metapress.com/content/38054849w7731327/>

**Medications for CIPN:**

* Neurotin (Gabapentin): used to decrease numbness and tingling from nerve damage
* Steroids: used only for a short term treatment
* Patches or creams of numbing medicine: applied directly on source of pain
* Anti-depressant medicines: used to treat depression
* Anti-convulsant medicines: used as an off label treatment for nerve pain
* Opioids or narcotics: used for when pain is severe

**Treatment Options:**

* Electrical nerve stimulation
* Occupational, physical, or relaxation therapy
* Massage
* Guided imagery
* Distraction
* Acupuncture
* Biofeedback

[](http://www.google.com/imgres?hl=en&biw=1366&bih=619&tbm=isch&tbnid=9hZwKPfL9lOGpM:&imgrefurl=http://www.amputee-coalition.org/inmotion/may_jun_06/neuro_charcot_partial_foot.html&docid=-2U1zY4h1duUUM&imgurl=http://www.amputee-coalition.org/inmotion/may_jun_06/neuro_charcot_partial_foot01.jpg&w=300&h=272&ei=iVAcT5ioC67J0AGz5fnYCw&zoom=1)

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-Great Pain Control Resource for Patients

<http://www.cancer.org/Treatment/TreatmentsandSideEffects/PhysicalSideEffects/Pain/PainDiary/pain-control-toc>

**Sources & References:**

1. <http://www.cancer.org/Treatment/TreatmentsandSideEffects/PhysicalSideEffects/ChemotherapyEffects/PeripheralNeuropathy/peripheral-neuropathy-caused-by-chemotherapy-toc>
2. <http://www.chemocare.com/managing/numbness__tingling.asp>
3. <http://www.cancercare.org/publications/24-understanding_and_managing_chemotherapy_side_effects?gclid=CPbBr9KR3a0CFSwBQAods0w8kw#possible-side-effects>
4. <http://www.cancer.gov/aboutnci/ncicancerbulletin/archive/2010/022310/page6>